
I-5 / Telegraph Road Corridor Project
I-5 / Telegraph Road Corridor
Phase II Detailed Design
Gateway Cities Public Works Officers
Traffic Signal Synchronization Subcommittee
January 20th , 2005
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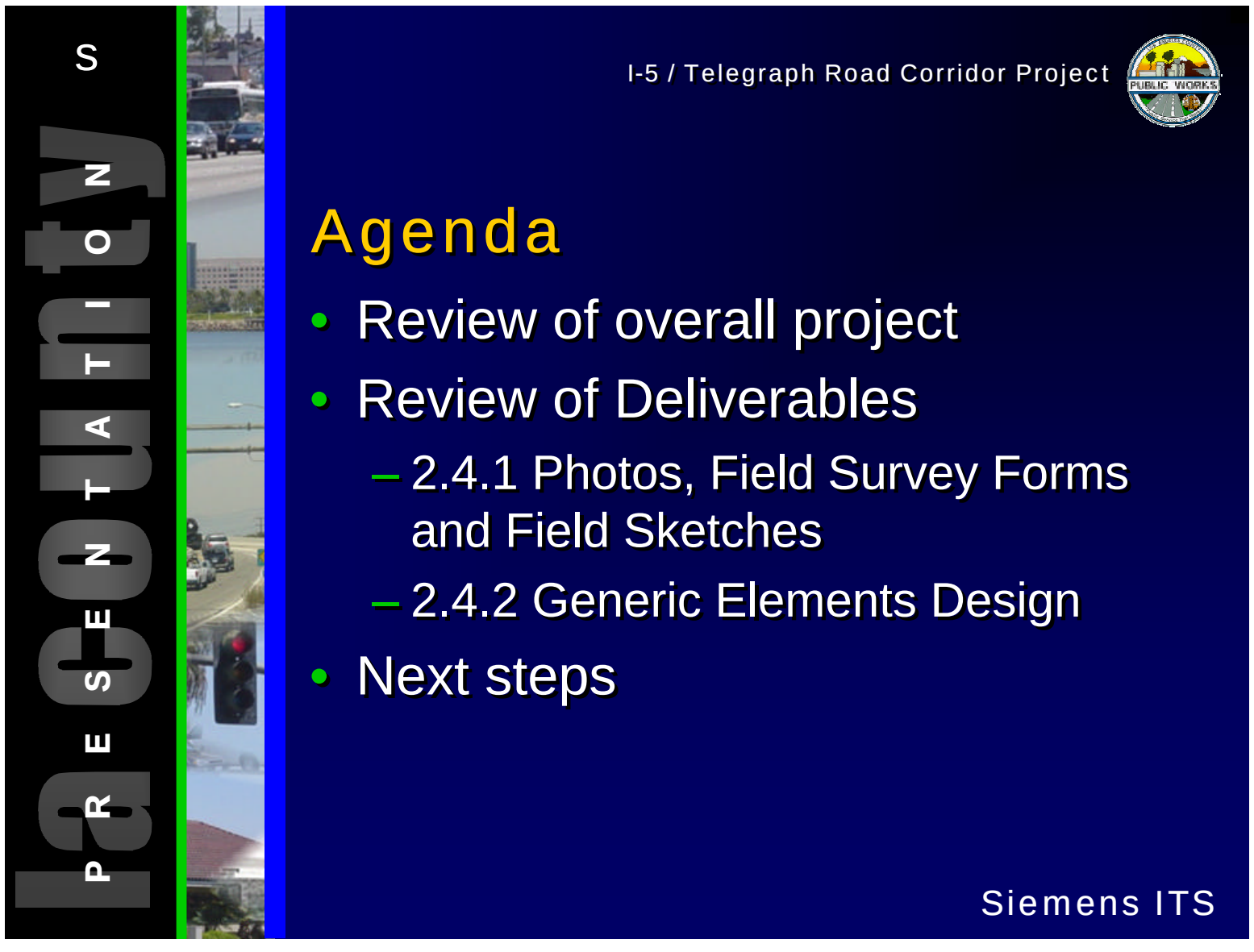
I-5 / Telegraph Road Corridor Project
Agenda
Review of overall project
Review of Deliverables
2.4.1 Photos, Field Survey Forms and Field Sketches
2.4.2 Generic Elements Design
Next steps
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Project Overview

This Project is being conducted in two phases.

- Phase I: Siemens ITS Team carried out an analysis of agency needs, developed requirements for different project components and recommended improvements in the Region after carrying out an analysis of different alternatives against the requirements.
- Phase II (current phase): Siemens ITS Team is preparing detailed design documents for the identified improvements and providing system design and integration services

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Phase II Description

- Siemens ITS has identified recommended improvements in Deliverable 7.1 Conceptual Design report.
- The scope includes
  - Design of Field Components, and LCC
  - Implementation and Integration of ATMS and LCC Components
  - Design and Implementation of Video Distribution System
  - Deployment of IEN Interfaces

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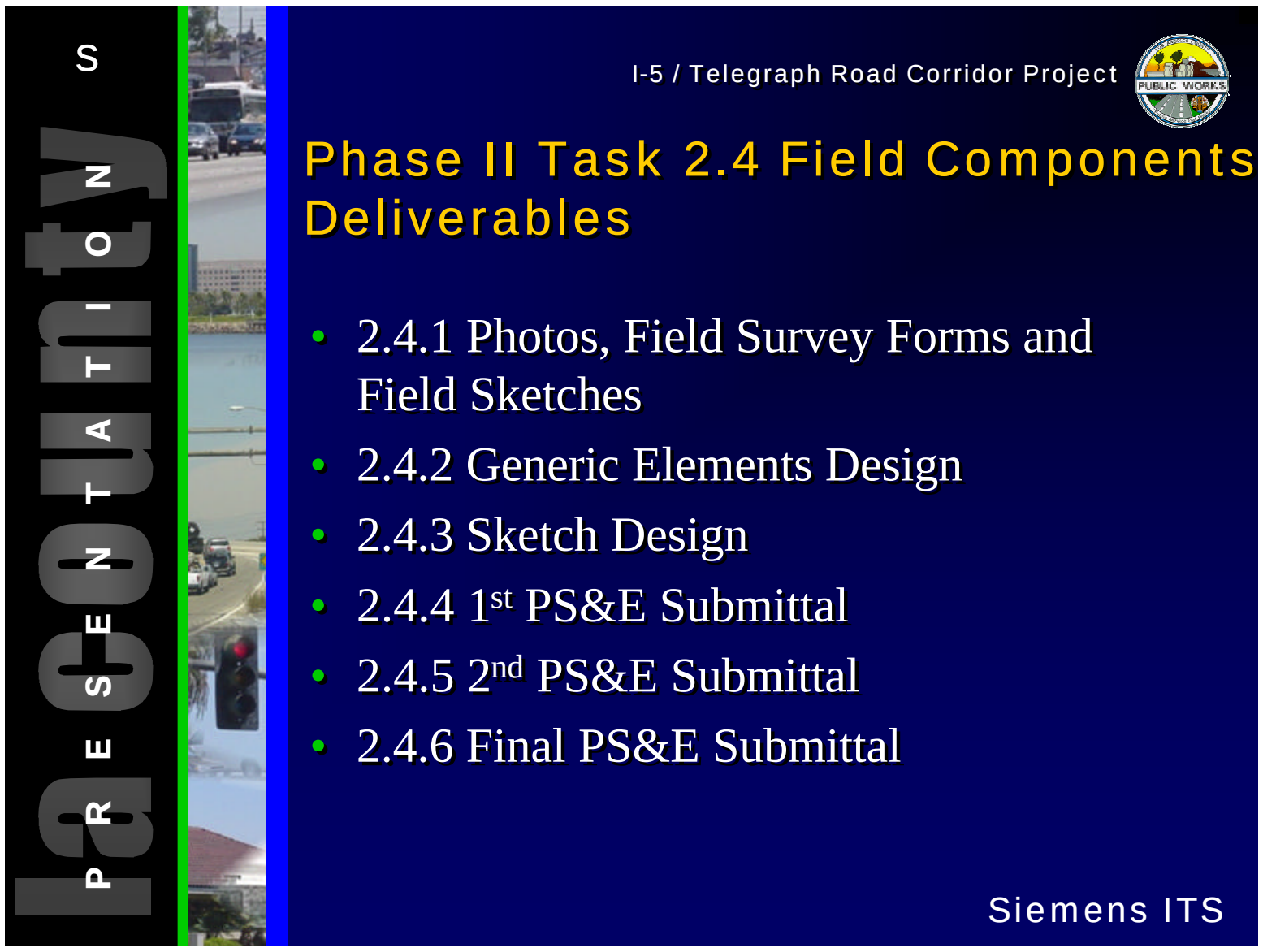
Phase II Project Area

Phase II Task 2.4 Field Elements Area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PUBLIC WORKS
Phase II Task 2.4 Field Components Deliverables
• 2.4.1 Photos, Field Survey Forms and Field Sketches
• 2.4.2 Generic Elements Design
• 2.4.3 Sketch Design
• 2.4.4 1st PS&E Submittal
• 2.4.5 2nd PS&E Submittal
• 2.4.6 Final PS&E Submittal
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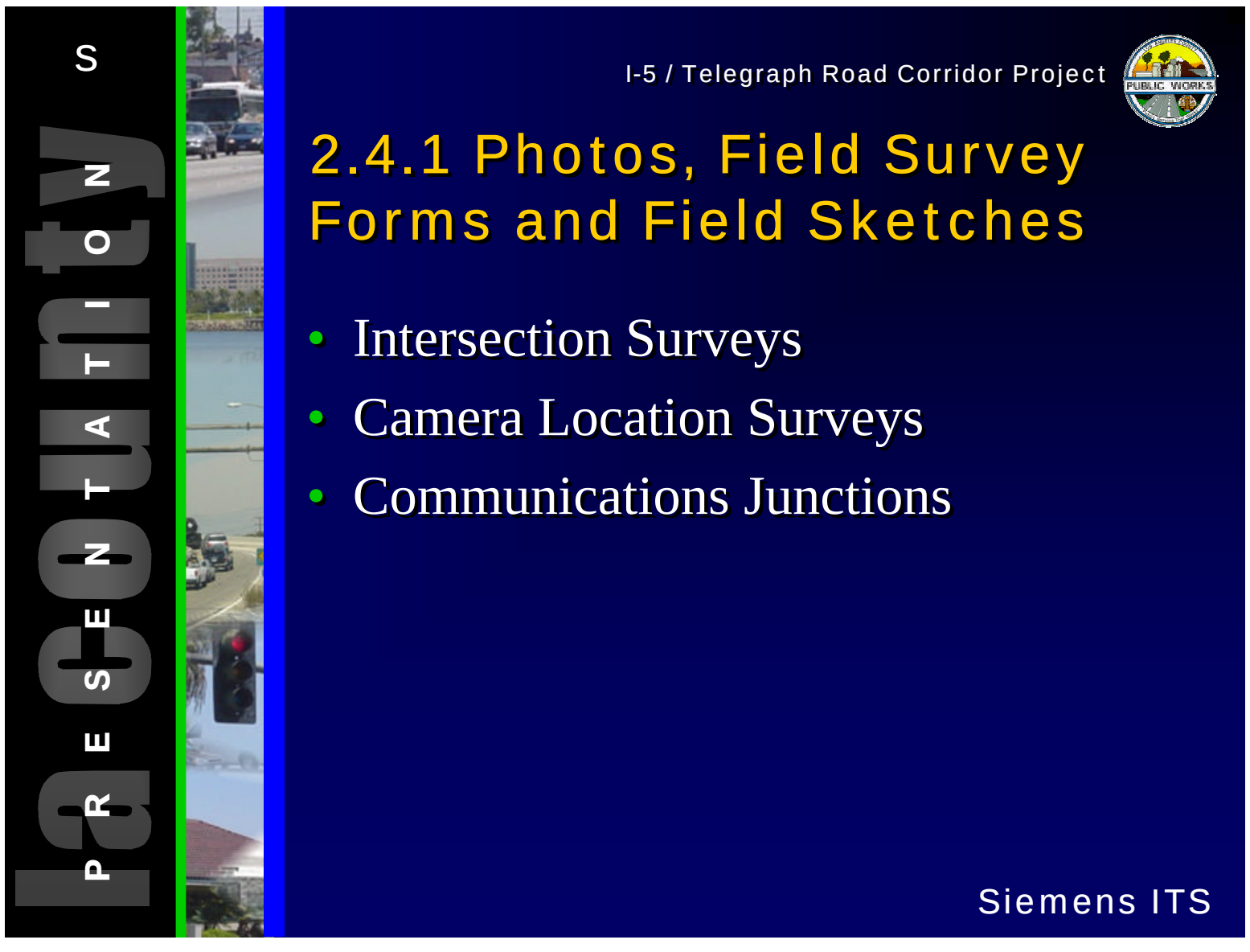
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PUBLIC WORKS
2.4.1 Photos, Field Survey Forms and Field Sketches
• Intersection Surveys
• Camera Location Surveys
• Communications Junctions
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Intersection Survey

Each of the 27 intersections was visited and the following gathered:

- Controller cabinet location;
- Size and estimated fill of existing conduits (near or at capacity);
- Manufacturer of Controller;
- Existing modem location, model and manufacturer if present;
- Manufacturer and Model of Conflict Monitor;
- Quantity of Switch Packs;
- Quantity of Pedestrian Isolation Modules;
- Existence of Emergency Vehicle and Railroad Preemption Modules;
- Quantity of Inductive Loop Detector (ILD) Sensor Units;
- Existence of RCTB, GPS UTB; and
- Type of Utility service.

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Intersection Surveys – Controller Upgrades

170 ATC

Paramount Blvd & Telegraph Rd.
Serapis Ave & Telegraph Rd.
Passons Blvd. & Telegraph Rd.
True Ave. & Telegraph Rd.
Cedardale Dr & Telegraph Rd.
Carmenita Rd. & Florence Ave.
Carmenita Rd & Lakeland Rd.
Carmenita Rd. & Meyer Rd.
Carmenita Rd. & Leffingwell Rd.

ASC/2

Orr & Day Rd. & Telegraph Rd.
Jersey Ave. & Telegraph Rd.
Fire Station & Telegraph Rd.
Pioneer Blvd. & Telegraph Rd.
Geary Ave. & Telegraph Rd.
Norwalk Blvd. & Telegraph Rd.
Shoemaker Ave. & Telegraph Rd.
Painter Ave. & Telegraph Rd.
Carmenita Rd. & Telegraph Rd.

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Intersection Surveys – Cabinet Replacement

- Serapis Ave & Telegraph Rd. (Type 332)
- Carmenita Rd. & Florence Ave. (Type 332)

Modifications from Draft Document:

- Passons Blvd. & Telegraph Rd. (Type 332)
- True Ave. & Telegraph Rd. (Type 332)
- Carmenita Rd. & Lakewood Blvd. (Type 332)
- Fire Station & Telegraph Rd. is a Type G cabinet and will remain.

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Intersection Surveys – Advance Detection Rewiring

- Pioneer Blvd. & Telegraph Rd.
- Norwalk Blvd. & Telegraph Rd.
- Painter Ave & Telegraph Rd.
- Carmenita Rd. & Florence Ave.

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Camera Location Surveys

- Six camera sites were identified in the Conceptual Design.
- Each site was field verified to determine the camera location.
- Views were noted from each potential site and summarized.
- Preliminary recommendations made.

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Camera Location Survey – Rosemead Blvd./Lakewood Blvd at Telegraph Rd.

- Two possible camera locations
  - Existing Traffic Signal Pole North/West quadrant – Pico Rivera's Jurisdiction (Location 1, Pole #5)
  - New Pole South West quadrant on Telegraph – Downey's Jurisdiction (Location 2, Pole #1)
- Final location pending discussion with local jurisdictions.

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Camera Location Survey – I-605 West Side of Telegraph Rd.

- City of Santa Fe Springs Jurisdiction
- Intersection poles and cabinets are not City owned and are avoided.
- Due to landscaping and ramp geometrics, limited views of the ramps can be achieved. Views of Telegraph Rd. approaching the City of Santa Fe Springs are good and considered essential.
- Tentative recommendation is to install a new pole and cabinet on the South West quadrant. (Pole #1)
- Additional field surveys and discussion are required to finalize the location of this site.

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Camera Location Survey – I-605 East Side of Telegraph Rd.

- City of Santa Fe Springs Jurisdiction
- Intersection poles and cabinets are not City owned and are avoided.
- Due to landscaping and ramp geometrics, limited views of the ramps can be achieved. Views of Telegraph Rd. to the west are obstructed by the I-605 OC, views to the east are good and considered essential.
- Tentative recommendation is to install the camera on an adjacent intersection (Orr & Day Rd) existing traffic signal pole. (Pole #4)
- Additional field surveys and discussion are required to finalize the location of this site.

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Camera Location Survey – Norwalk Blvd. At Telegraph Rd.

- City of Santa Fe Springs Jurisdiction
- Existing Pedestrian Overcrossing obscures views.
- Tentative recommendation is to install the camera existing traffic signal pole located in the South West corner. (Pole #1)
- Additional field surveys and investigation of using a taller pole are required to finalize the location of this site.

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Camera Location Survey – Carmenita Rd. at Telegraph Rd.

- City of Santa Fe Springs Jurisdiction
- Tentative recommendation is to install the camera on the existing traffic signal pole located at the North East corner. (Pole #3)
- Additional field surveys will be conducted to finalize the location of this site.

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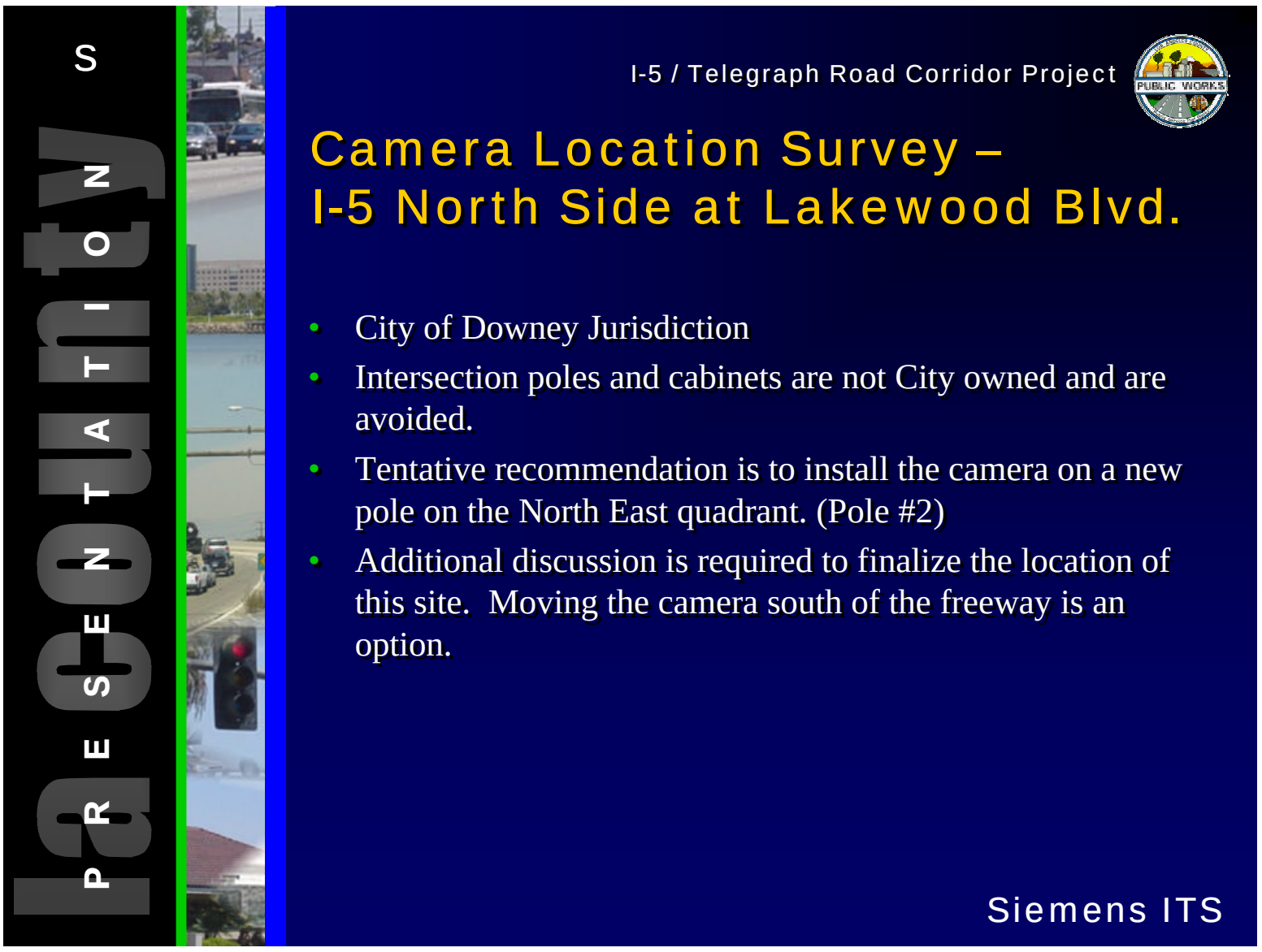
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PUBLIC WORKS
Camera Location Survey –
I-5 North Side at Lakewood Blvd.
• City of Downey Jurisdiction
• Intersection poles and cabinets are not City owned and are avoided.
• Tentative recommendation is to install the camera on a new pole on the North East quadrant. (Pole #2)
• Additional discussion is required to finalize the location of this site. Moving the camera south of the freeway is an option.
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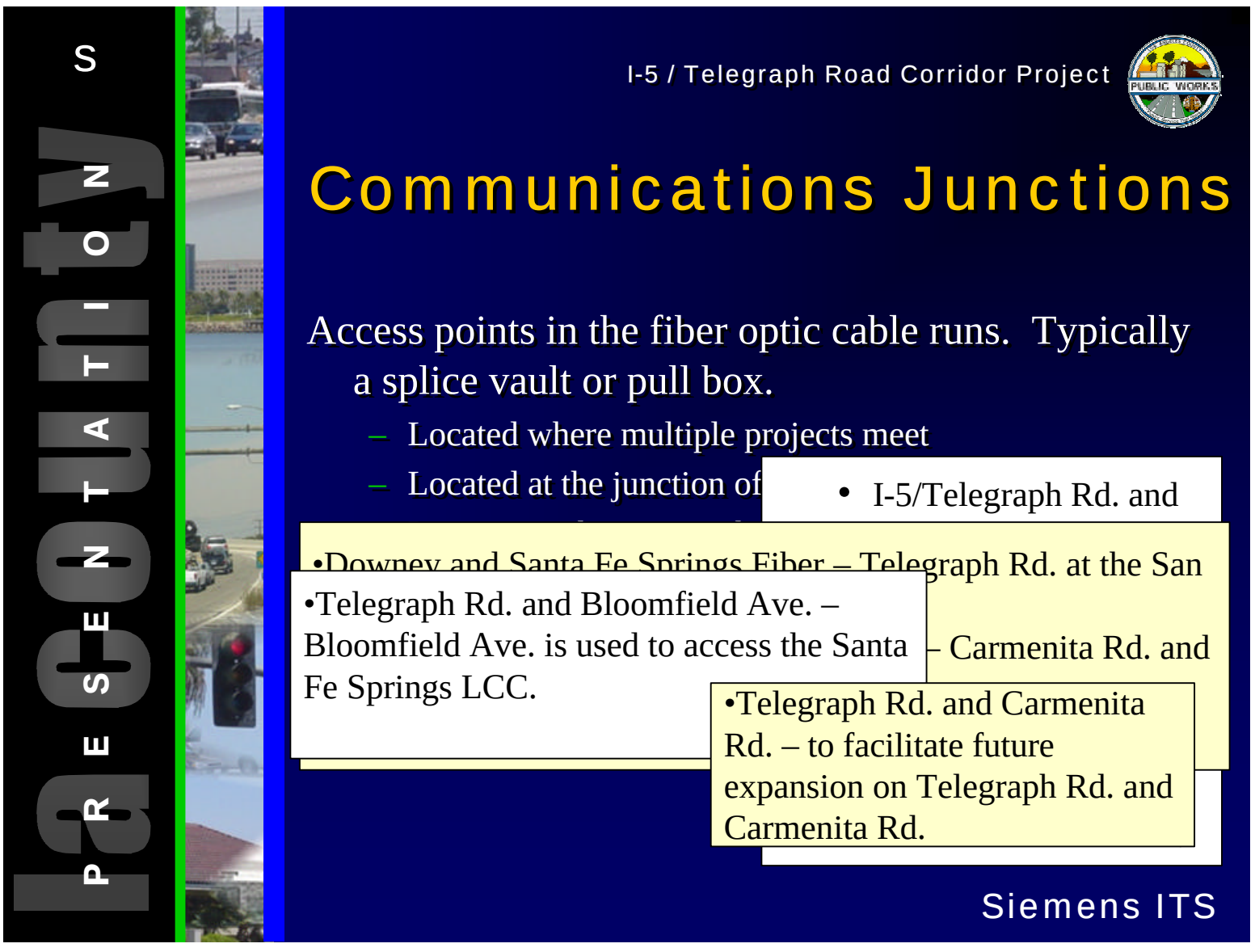
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PUBLIC WORKS
Communications Junctions
Access points in the fiber optic cable runs. Typically a splice vault or pull box.
– Located where multiple projects meet
– Located at the junction of
• I-5/Telegraph Rd. and
•Downey and Santa Fe Springs Fiber – Telegraph Rd. at the San
– Carmenita Rd. and
•Telegraph Rd. and Bloomfield Ave. – Bloomfield Ave. is used to access the Santa Fe Springs LCC.
•Telegraph Rd. and Carmenita Rd. – to facilitate future expansion on Telegraph Rd. and Carmenita Rd.
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2.4.2 Generic Elements Design

- Summarizes the approaches and information that will be contained in the PS&E.

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2.4.2 Generic Elements Design

- PS&E Preparation
  - Predominately LA County Standards for Drafting and Construction will be used.
  - LA County will coordinate the reviews with the involved agencies.

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2.4.2 Generic Elements Design

- Conduits, Innerducts, Pull Boxes and Splice Vaults
  - Multicell conduits
  - Caltrans Standard 6(E) Pull Boxes
  - 3 ft x 3 ft x 5 ft boxes following Downey Standards.

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2.4.2 Generic Elements Design

- Controller Communications Architecture
  - Follow Downey's current Ethernet design within the City of Downey
  - Santa Fe Springs, County and Caltrans will be configured in a self healing ring configuration.

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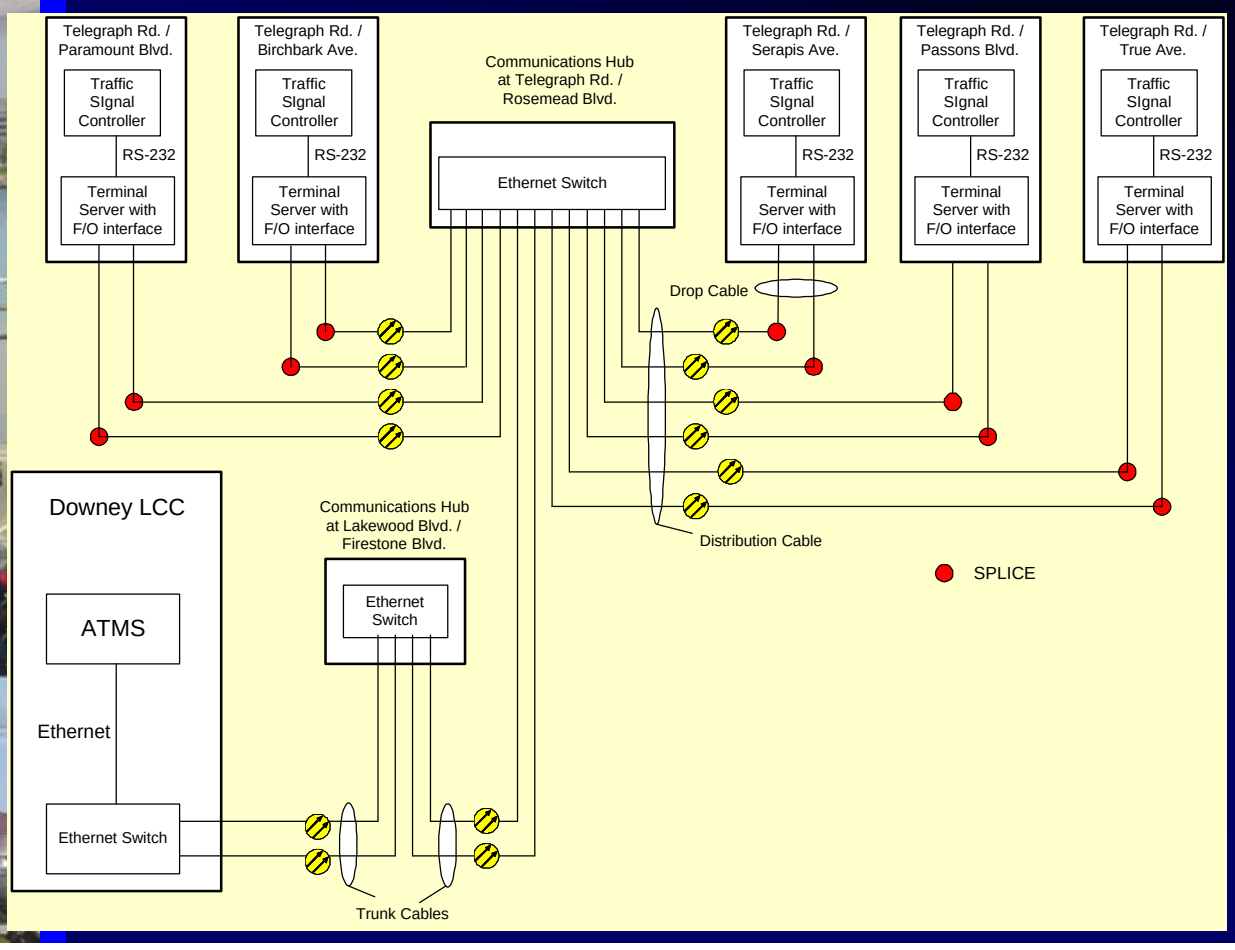
Downey Controller Communications Design



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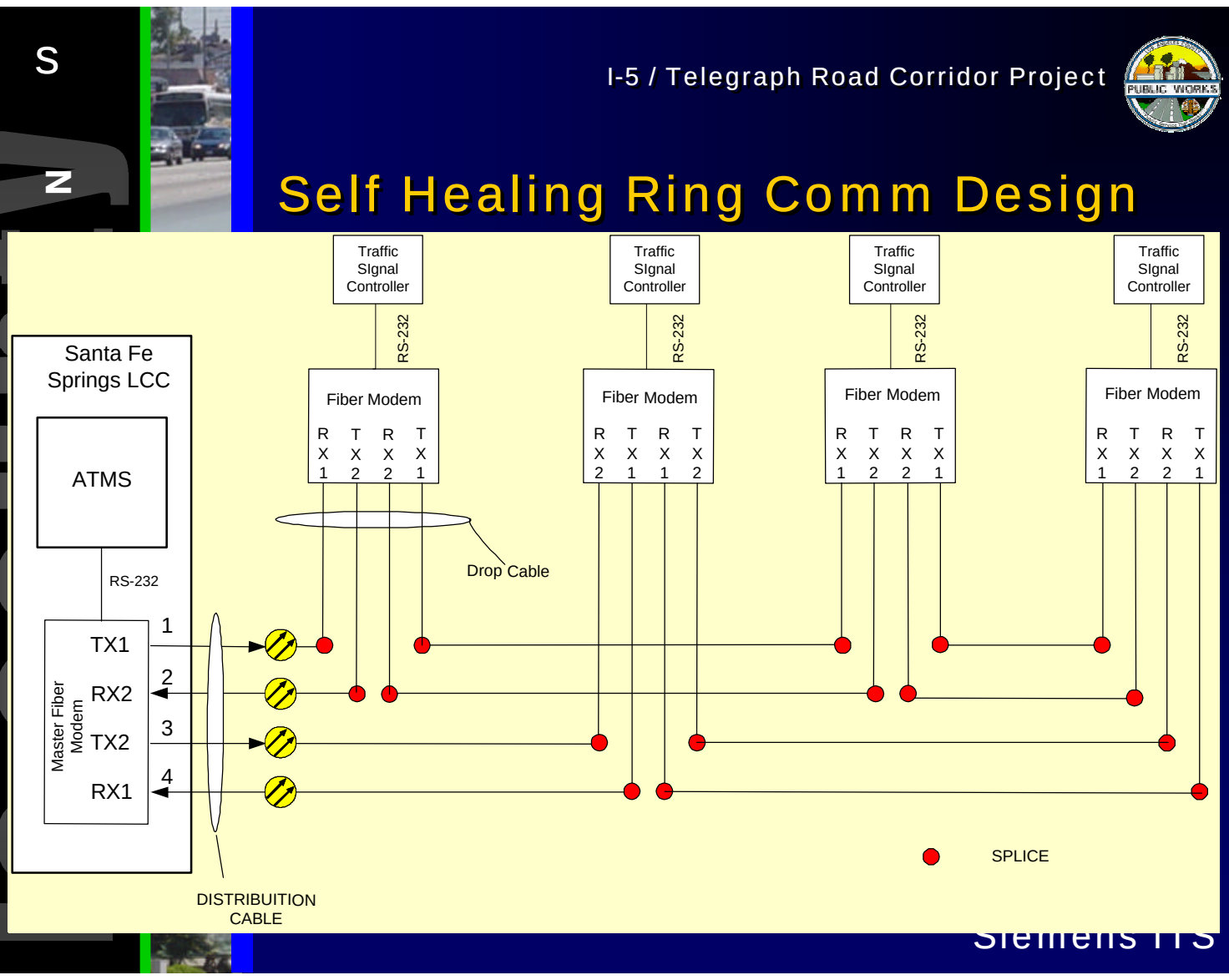
Self Healing Ring Comm Design



2.4.2 Generic Elements Design

- Camera Communications Architecture
  - Follow Downey's current Ethernet design within the City of Downey
  - Santa Fe Springs will also use Ethernet

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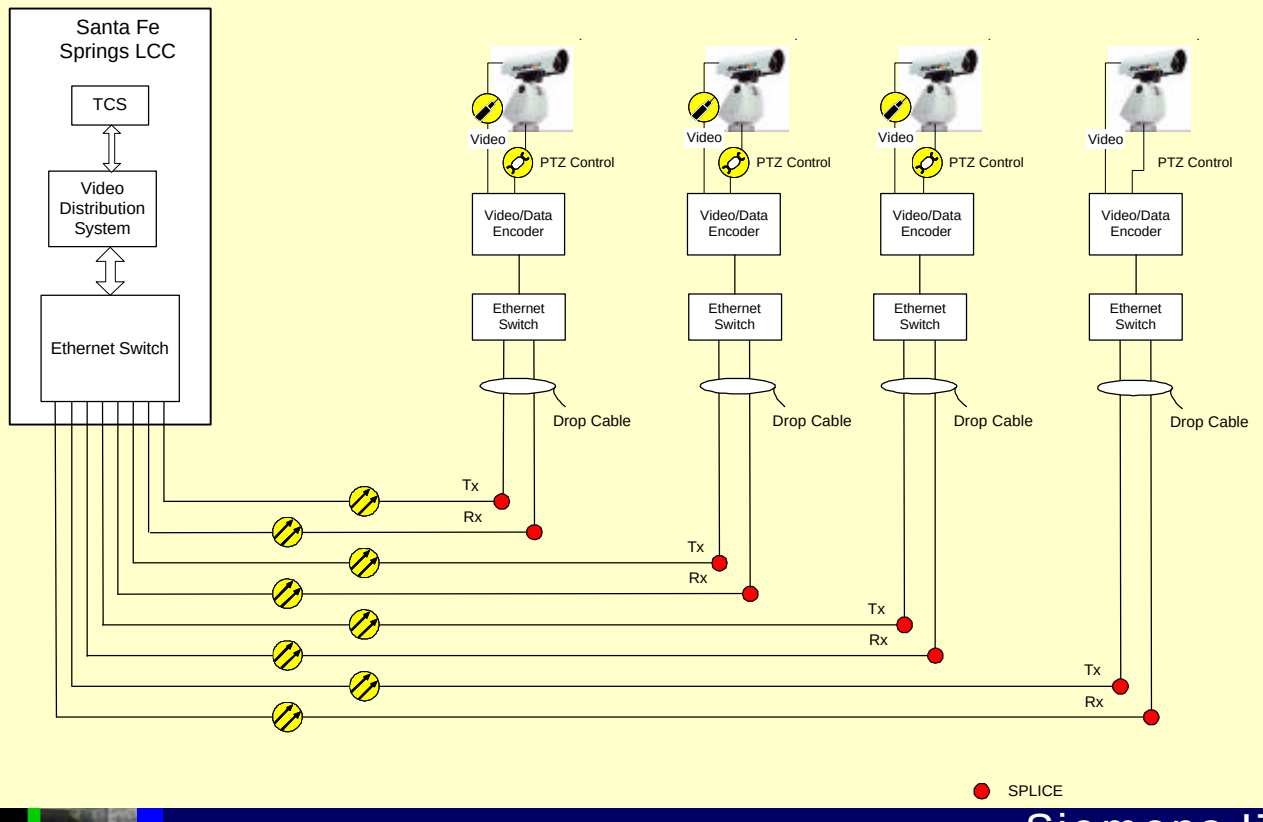
Camera Communications Design



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2.4.2 Generic Elements Design

- LCC to LCC Fiber Communications Architecture
  - Ethernet Switches will be located in each LCC on the Fiber route and connected to exchange video.
  - The existing and proposed hub switches installed in the City of Downey will be incorporated.
  - Spanning Tree Protocol will be used to automatically switch paths in the event of a path breakage.

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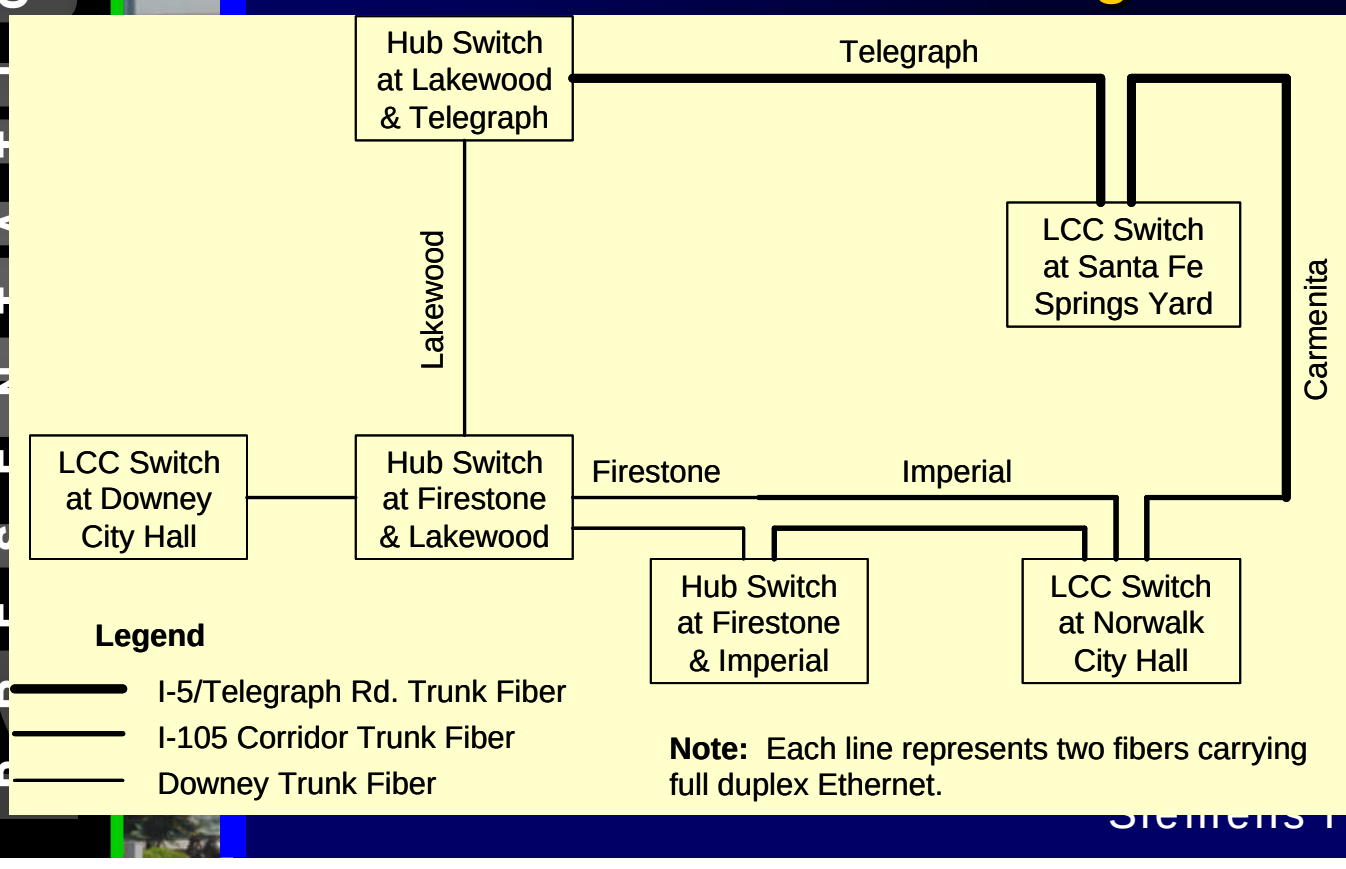
LCC to LCC Fiber Communications Design



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Next Steps

- Complete CCTV Field Surveys
- Complete Sketch Design – Draft Due in approximately two months.
- Begin Work on the first PS&E Submittal